



One Identity Manager 8.2.1

## Business Roles Administration Guide

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**Legend**

 **WARNING:** A WARNING icon highlights a potential risk of bodily injury or property damage, for which industry-standard safety precautions are advised. This icon is often associated with electrical hazards related to hardware.

 **CAUTION:** A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.

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## Managing business roles

Business roles map company structures with similar functionality that exist in addition to departments, cost centers, and locations. This might be projects groups, for example. Various company resources can be assigned to business roles. For example, authorizations in different SAP systems or Azure Active Directory tenants. You can add employees to single business roles as members. Employees obtain their company resources through these assignments when One Identity Manager is appropriately configured.

**NOTE:** The Business Roles Module must be installed as a prerequisite for managing business roles in One Identity Manager. For more information about installing, see the *One Identity Manager Installation Guide*.

The One Identity Manager components for managing business roles are available if the **QER | Org** configuration parameter is set.

- In the Designer, check if the configuration parameter is set. Otherwise, set the configuration parameter and compile the database.

**NOTE:** If you disable the configuration parameter at a later date, model components and scripts that are not longer required, are disabled. SQL procedures and triggers are still carried out. For more information about the behavior of preprocessor relevant configuration parameters and conditional compiling, see the *One Identity Manager Configuration Guide*.

## One Identity Manager users for business roles

The following users are used for the administration of business roles.

**Table 1: Users**

| User                          | Tasks   |
|-------------------------------|---|
| Business roles administrators | Administrators must be assigned to the <b>Identity Management   Business roles   Administrators</b> application role. |

| User                                | Tasks   |
|-------------------------------------|---|
|                                     | <p>Users with this application role:</p> <ul style="list-style-type: none"> <li>• Create and edit business roles.</li> <li>• Assign company resources to business roles.</li> <li>• Administrate application roles for role approvers, role approvers (IT), and attestors.</li> <li>• Set up other application roles as required.</li> </ul>  |
| Business Role Attestors             | <p>Attestors must be assigned to the <b>Identity Management   Business roles   Attestors</b> application role or a child application role.</p> <p>Users with this application role:</p> <ul style="list-style-type: none"> <li>• Attest correct assignment of company resource to business roles for which they are responsible.</li> <li>• Can view main data for these business roles but not edit them.</li> </ul> <p><b>NOTE:</b> This application role is available if the module Attestation Module is installed.</p> |
| Business Role Approvers             | <p>Approvers must be assigned to the <b>Identity Management   Business roles   Role approvers</b> application role or a child application role.</p> <p>Users with this application role:</p> <ul style="list-style-type: none"> <li>• Are approvers for the IT Shop.</li> <li>• Approve requests from business roles for which they are responsible.</li> </ul>   |
| Business Role Approvers (IT)        | <p>IT role approvers must be assigned to the <b>Identity Management   Business roles   Role approvers (IT)</b> application role or a child application role.</p> <p>Users with this application role:</p> <ul style="list-style-type: none"> <li>• Are IT role approvers for the IT Shop.</li> <li>• Approve requests from business roles for which they are responsible.</li> </ul>  |
| One Identity Manager administrators | <p>One Identity Manager administrator and administrative system users<br/>Administrative system users are not added to application roles.</p> <p>One Identity Manager administrators:</p> <ul style="list-style-type: none"> <li>• Create customized permissions groups for application roles for role-based login to administration tools in the Designer as required.</li> <li>• Create system users and permissions groups for non role-based login to administration tools in the Designer as required.</li> </ul>      |

| User                | Tasks   |
|---------------------|---|
|                     | <ul style="list-style-type: none"> <li>• Enable or disable additional configuration parameters in the Designer as required.</li> <li>• Create custom processes in the Designer as required.</li> <li>• Create and configure schedules as required.</li> </ul>   |
| Additional managers | <p>The additional managers must be assigned to the <b>Identity Management   Business roles  Additional managers</b> application role or to a child application role.</p> <p>Users with this application role:</p> <ul style="list-style-type: none"> <li>• Have permission to manage business roles.</li> </ul> |

## Hierarchical role structure basic principles

Business role are arranged hierarchically. Assigned company resources are inherited by members through these hierarchies. Company resource assignments are not made to individual employees, devices or workdesks but centrally and then inherited automatically through a predefined distribution list.

Hierarchies can either be created following the top-down or the bottom-up model in One Identity Manager. In the top-down model, roles are defined based on the area of activity and the company resources required to fulfill the activities are assigned to the roles. In the case of the bottom-up model, company resource assignments are analyzed and the roles result from this.

## Inheritance directions within a hierarchy

The direction of inheritance decides the distribution of company resources within a hierarchy. One Identity Manager basically recognizes two directions of inheritance:

- Top-down inheritance

In One Identity Manager, top-down inheritance maps the default structure within a company. With its help, a company's multilevel form can be represented with main departments and respective subdepartments.

- Bottom-up inheritance

Whereas in top-down inheritance, assignments are inherited in the direction of more detailed classifications, bottom-up inheritance operates in the other direction. This inheritance direction was introduced to map project groups in particular. The aim being, to provide someone coordinating several project groups with the company resources in use by each of the project groups.

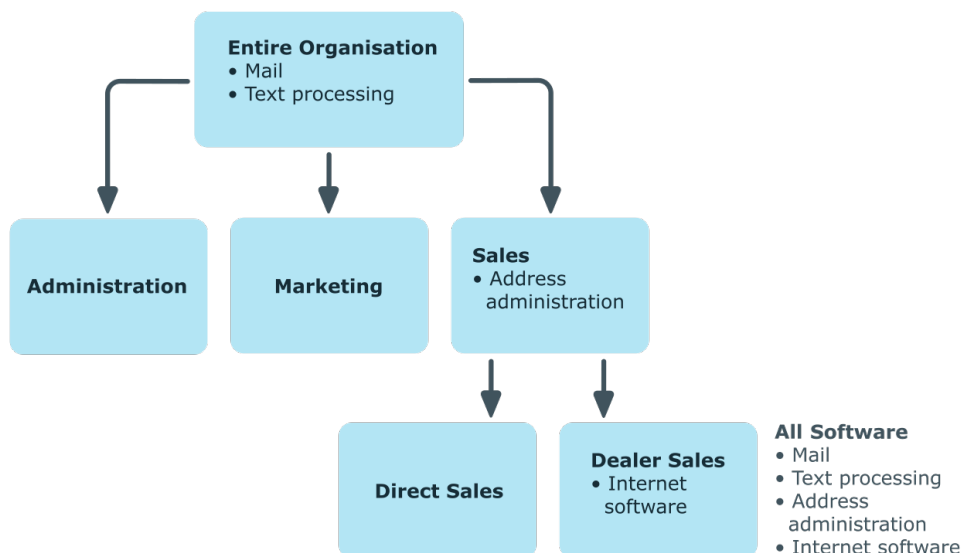
**NOTE:** The direction of inheritance is only taken into account in relation to the inheritance of company resources. The direction of inheritance does not have any effect on the selection of the manager responsible. The manager with a parent role is always responsible for all child roles.

The effect on the allocation of company resources is explained in the following example for assigning an application.

### Example: Assigning company resources top-down

In the diagram above a section of a company's structure is illustrated. In addition, software applications are listed that are assigned to the respective department. An employee in dealer sales is assigned all the software applications that are allocated to their department and all those on the entire organization path. In this case, they are email, text processing, address management and internet software.

**Figure 1: Assignment through top-down inheritance**

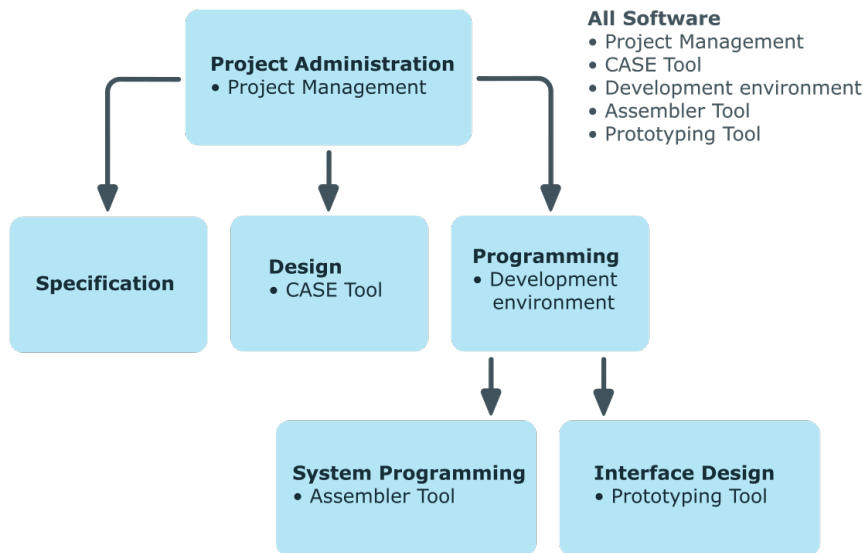


### Example: Assigning company resources bottom-up

The next figure shows bottom-up inheritance based on a project framework. In addition, software applications are listed that are assigned to the respective project group. An employee from the "Project lead" project group receives software applications from the project group as well as those from the projects groups below.

In this case, it is project management, CASE tool, development environment, assembler tool, and prototyping tool.

**Figure 2: Assignment through bottom-up inheritance**



## Discontinuing inheritance

There are particular cases where you may not want to have inheritance over several hierarchical levels. That is why it is possible to discontinue inheritance within a hierarchy. The point at which the inheritance should be discontinued within a hierarchy is specified by the **Block inheritance** option. The effects of this depend on the chosen direction of inheritance.

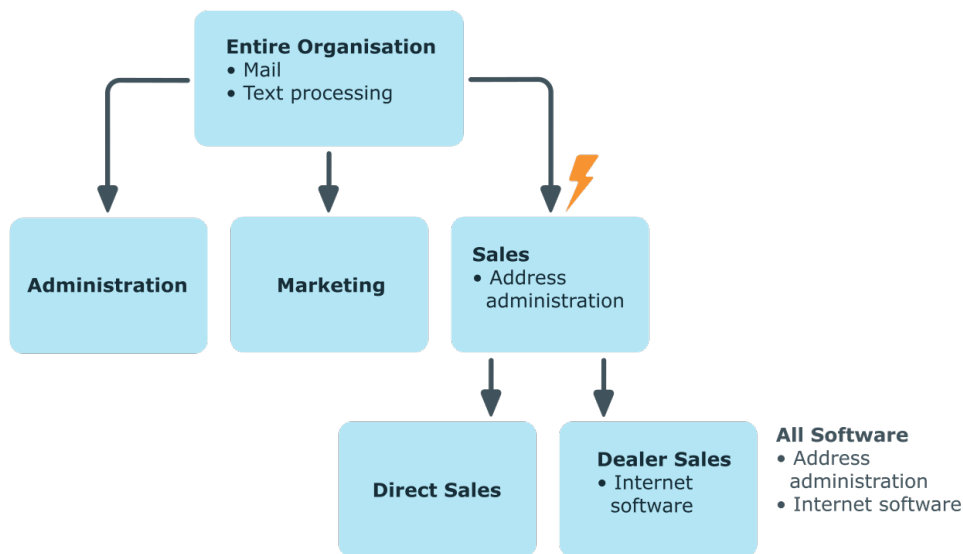
- Roles marked with the **Block inheritance** option do not inherit any assignments from parent levels in top-down inheritance. It can, however, pass on its own directly assigned company resources to lower level structures.
- In bottom-up inheritance, the role labeled with the "Block inheritance" option inherits all assignments from lower levels in the hierarchy. However, it does not pass any assignments further up the hierarchy.

The **Block inheritance** option does not have any effect on the calculation of the manager responsible.

### Example: Discontinuing inheritance top-down

If the **Block inheritance** option is set for the "Sales" department in the top-down example, it results in sales employees only being assigned the "Address management" software and employees in the "Dealer sales" department inherit the "Address management" and "Internet" software. Software applications in the "Entire organization" department are however, assigned to employees in the "Sales" and "Dealer sales" departments.

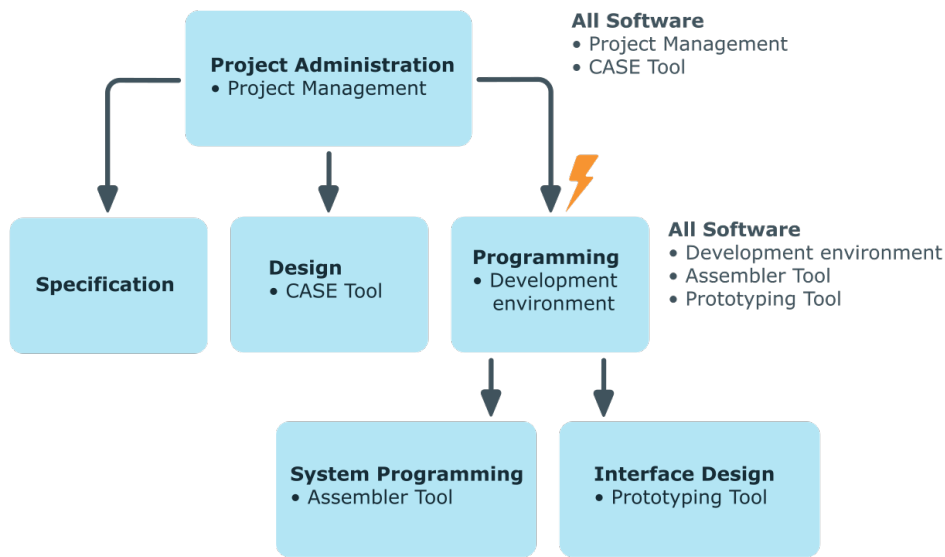
Figure 3: Discontinuing inheritance top-down



### Example: Discontinuing inheritance bottom-up

An employee from the "Programming" project group receives software applications from the project group as well as those from the projects groups below. In this case, the development environment, assembler tool and the prototyping tool. If the "Programming" project group has labeled with the **Block inheritance** option, it no longer passes down inheritance. As a result, only the CASE tool is assigned to employees in the "Project lead" project group along with the software application project management. Software applications from the "Programming", "System programming", and "Interface design" projects groups are not distributed to the project lead.

**Figure 4: Discontinuing inheritance bottom-up**



## Related topics

- [Blocking inheritance using business roles](#) on page 25

# Basic principles for assigning company resources

You can assign company resources to employees, devices, and workdesks in One Identity Manager. You can use different assignments types to assign company resources.

Assignments types are:

- [Direct company resource assignments](#)
- [Indirect company resource assignments](#)
- [Assigning company resources through dynamic roles](#)
- [Assigning company resources through IT Shop requests](#)

# Direct company resource assignments

Direct assignment of company resources results from the assignment of a company resource to an employee, device, or workdesk, for example. Direct assignment of company resources makes it easier to react to special requirements.

**Figure 5: Schema of a direct assignment based on the example of an employee**



# Indirect company resource assignments

In the case of indirect assignment of company resources, employees, devices, and workdesks are arranged in departments, cost centers, locations, business roles, or application roles. The total of assigned company resources for an employee, device, or workdesk is calculated from the position within the hierarchies, the direction of inheritance (top-down or bottom-up) and the company resources assigned to these roles. In the Indirect assignment methods a difference between primary and secondary assignment is taken into account.

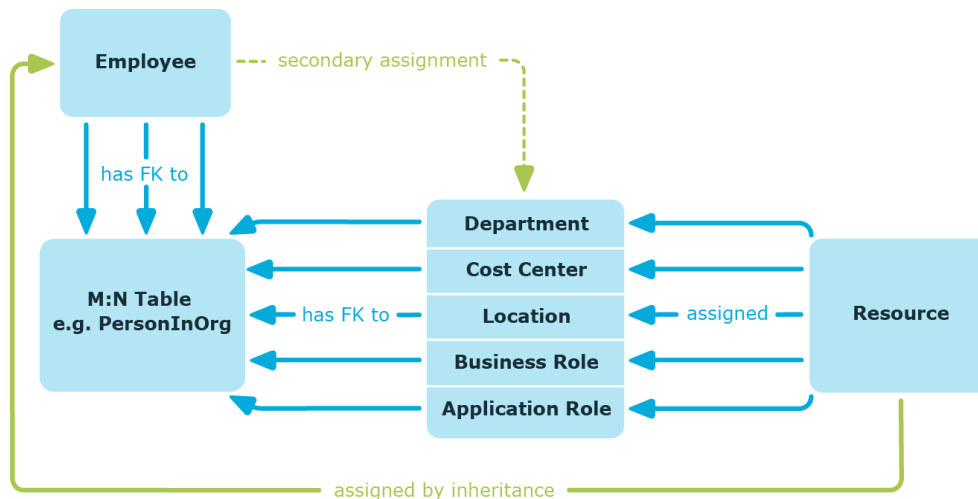
**Figure 6: Schema of an indirect assignment based on the employee example**



## Secondary assignment

You make a secondary assignment by classifying an employee, a device, or a workdesk within a role hierarchy. Secondary assignment is the default method for assigning and inheriting company resources through roles. In the role classes , specify whether a secondary assignment of company resources to employees, device, and workdesk is possible.

**Figure 7: Secondary assignment inheritance schema**



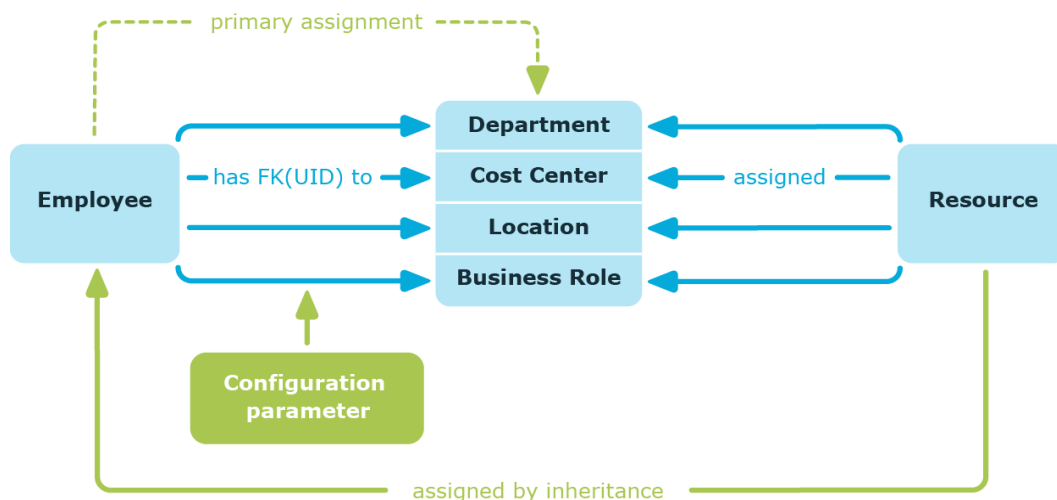
## Related topics

- [Permitting assignments of employees, devices, workdesks, and company resources to business roles](#) on page 23

## Primary assignment

You make a primary assignment using a business role, cost center, or location foreign key reference in employee, device and workdesk objects. To do this, use the role fields on the employee, device, and workdesk main data forms. Primary assignment inheritance can be enabled through configuration parameters. Primary assignment is enabled by default for employee objects.

**Figure 8: A primary assignment schema**



**NOTE:** Changes to the configuration parameter result in the inheritance data being recalculated! That means: if the primary assignment is disabled at a later date, the inheritance data created in this way will be removed from the database.

**Table 2: Configuration parameters for primary assignment**

| Configuration parameter                         | Effect when set  |
|---|--|
| QER   Structures   Inherit   Employee           | Employees can inherit through primary assignments.                                 |
| QER   Structures   Inherit   Employee   FromOrg | Employees inherit assignments from their primary business role (Person.UID_Org).   |
| QER   Structures   Inherit   Hardware           | Devices can inherit through primary assignments.                                   |
| QER   Structures   Inherit   Hardware   FromOrg | Devices inherit assignments from their primary business role (Hardware.UID_Org).   |
| QER   Structures   Inherit   Workdesk           | Workdesks can inherit through primary assignment.                                  |
| QER   Structures   Inherit   Workdesk   FromOrg | Workdesks inherit assignments from their primary business role (Workdesk.UID_Org). |

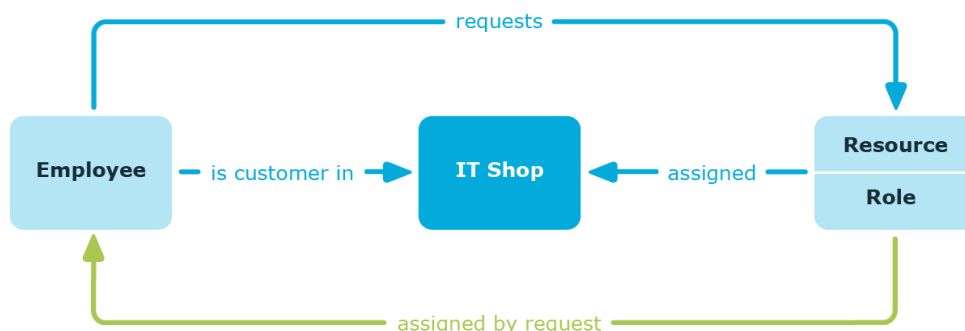
## Assigning company resources through dynamic roles

Assignment through dynamic roles is a special case of indirect assignment. Dynamic roles are used to specify role memberships dynamically. Employees, devices, and workdesks are not permanently assigned to a role, just when they fulfill certain conditions. A check is performed regularly to assess which employees, devices, or workdesks fulfill these conditions. This means the role memberships change dynamically. For example, company resources can be assigned dynamically to all employees in a business role in this way; if an employee leaves the department they immediately lose the resources assigned to them.

## Assigning company resources through IT Shop requests

Assignment through the IT Shop is a special case of indirect assignment. Add employees to a shop as customers so that company resources can be assigned through IT Shop requests. All company resources assigned as product to this shop can be requested by the customers. Requested company resources are assigned to the employees after approval is granted. Role memberships can be requested through the IT Shop as well as company resources.

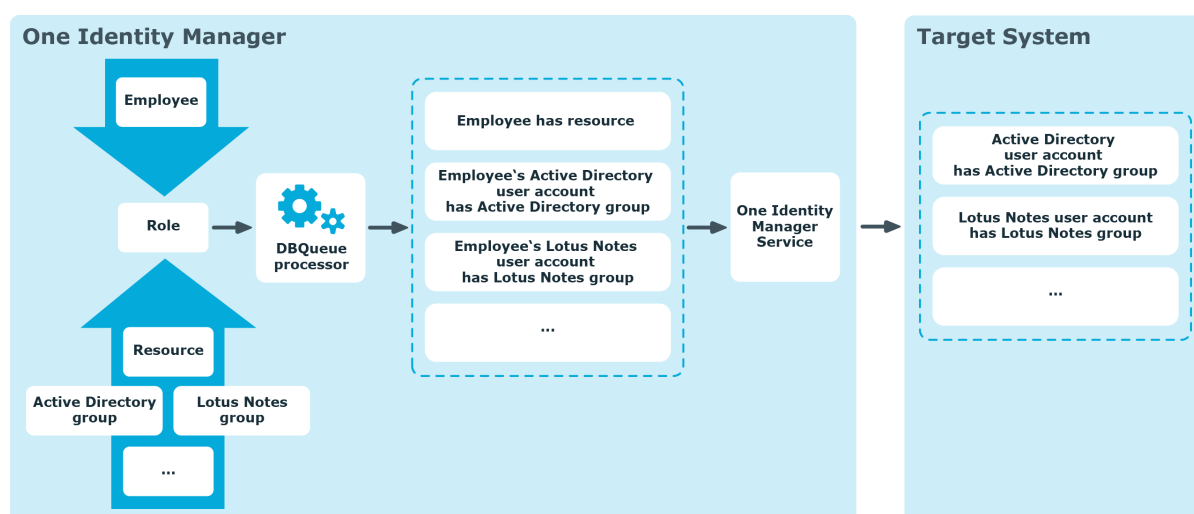
**Figure 9: Schema of assignment by requests**



## Basics of calculating inheritance

Objects assigned through inheritance are calculated by the DBQueue Processor. Tasks are added to the DBQueue when assignments relevant to inheritance are made. These tasks are processed by the DBQueue Processor and result in follow-on tasks for the DBQueue or in processes for process component `HandleObjectComponent` in the Job queue. Resulting assignments of permissions to user accounts in the target system are inserted, modified, or deleted during process handling.

**Figure 10: Overview of inheritance calculation**



## Calculating inheritance by hierarchical roles

Employees, devices, and workdesks can only be members in roles that are extensions of the BaseTree table. These role are display in views, each of which represents a certain of the BaseTree table.

**Table 3: BaseTree table views**

| View | Meaning                                    |
|------|--|
| ORG  | Graphical representation of business roles |

**NOTE:** Because the views are subsets of the BaseTree table, all the inheritance mechanisms described below also apply to the views.

Inheritance comes from the BaseTree table. The BaseTree table can map any number of hierarchical role structures using the UID\_Org - UID\_ParentOrg relationship. These are stored in the BaseTreeCollection table. All the roles inherited from the given role are listed and, depending on their subset of the table BaseTree there is a corresponding, so-called \*Collection table containing a subset of the role hierarchy.

The following relations apply in the BaseTreeCollection table:

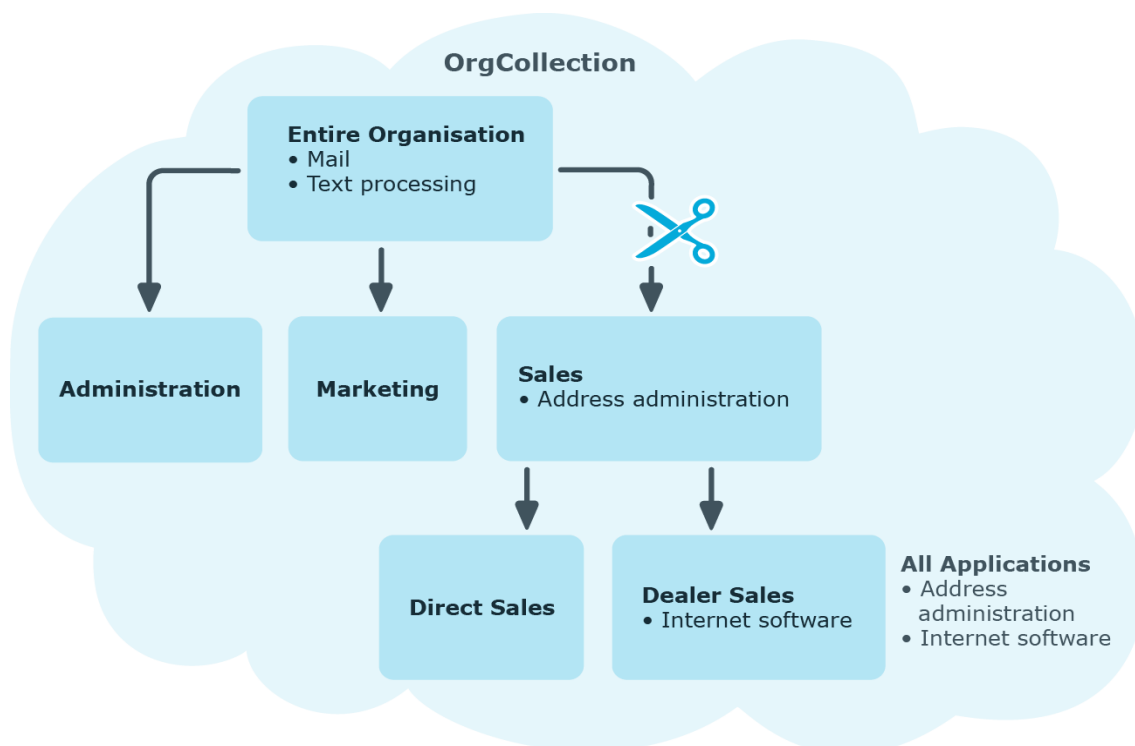
- UID\_Org is the role that inherits.
- UID\_ParentOrg is the role that passes down inheritance.

This principle also applies to bottom-up trees that pass inheritance from bottom to top, even if the parent relationship from the BaseTree table appears to be reversed.

Each role inherits from itself.

Each role in a role hierarchy must be related to the OrgRoot table (Role classes). OrgRoot is the anchor for role hierarchies. A role hierarchy is always mapped for one role class only. Roles from different role classes may not be in one and the same role hierarchical or point to each other through a parent-child relationship.

**Figure 11: Hierarchical role structure based on an OrgCollection**



A role inherits everything that is assigned to its parents in the role hierarchy including those it assigned to itself. If the number of roles from which the role has inherited something changes, the assigned objects are recalculated for all members of this role. If the number of assigned objects of one class changes, the objects assigned in this class are recalculated for all members of the role. If a software application is assigned to a parent role, the members of the BaseTreeHasApp table are recalculated.

The members of a role inherit all their assignments through primary and secondary role structures in accordance with the BaseTree table and also previous structures in accordance with the BaseTreeCollection table .

## Calculation of assignments

When inheritance is calculated, an entry is made for each assignment in the corresponding assignment table. Each table, in which assignments are mapped, has an X0origin column. The origin of an assignment is stored in this column as a bit field. Each time an entry is made in the assignment table, the bit position is changed according to the assignment type. Each assignment type changes only its allocated bit position.

That means:

- Bit 0: direct assignment.
- Bit 1: indirect assignment but not through a dynamic role.

- Bit 2: assignment through a dynamic role.
- Bit 3: assignment through an assignment request.
- Bit 4: module specific bit. For detailed information, see the administration guide of the module in which the bit is used.

**Table 4: Possible values for column XOrigin**

| Bit 3 | Bit 2 | Bit 1 | Bit 0 | Value in XOrigin | Meaning  |
|-------|-------|-------|-------|------------------|--|
| 0     | 0     | 0     | 1     | <b>1</b>         | Only directly assigned.  |
| 0     | 0     | 1     | 0     | <b>2</b>         | Only indirectly assigned.  |
| 0     | 0     | 1     | 1     | <b>3</b>         | Directly and indirectly assigned.                                      |
| 0     | 1     | 0     | 0     | <b>4</b>         | Assigned through dynamic roles.  |
| 0     | 1     | 0     | 1     | <b>5</b>         | Assigned directly and through dynamic roles.                           |
| 0     | 1     | 1     | 0     | <b>6</b>         | Assigned indirectly and through dynamic roles.                         |
| 0     | 1     | 1     | 1     | <b>7</b>         | Assigned directly, indirectly, and through dynamic roles.              |
| 1     | 0     | 0     | 0     | <b>8</b>         | Assignment request.  |
| 1     | 0     | 0     | 1     | <b>9</b>         | Assigned by assignment request and directly.                           |
| 1     | 0     | 1     | 0     | <b>10</b>        | Assigned by assignment request and indirectly.                         |
| 1     | 0     | 1     | 1     | <b>11</b>        | Assigned by assignment request, directly, and indirectly.              |
| 1     | 1     | 0     | 0     | <b>12</b>        | Assigned by assignment request and through dynamic roles.              |
| 1     | 1     | 0     | 1     | <b>13</b>        | Assigned by assignment request, directly, and through dynamic roles.   |
| 1     | 1     | 1     | 0     | <b>14</b>        | Assigned by assignment request, indirectly, and through dynamic roles. |
| 1     | 1     | 1     | 1     | <b>15</b>        | Assignment request, direct, indirect, and through dynamic roles.       |

### Special features of inheriting assignments through a role hierarchy

**NOTE:** If an assignment is inherited through a role hierarchy, **bit 1** is set on the inherited assignment. Inherited assignments are consequently, always assigned indirectly even if they were originally created directly through dynamic role or an assignment request.

### Example:

An Active Directory group assignment was requested for the "Sales" business role. The "Sales EMEA" child business role inherits this assignment. In the OrgHasADSGroup table, XOrigin is set as follows:

- Business role "Sales": XOrigin='8' (assignment resource)
- Business role "Sales EMEA": XOrigin='2' (indirect assignment)

## Effectiveness of assignments

The XIsInEffect column shows whether an assignment is in effect. For example, if an employee is deactivated, marked for deletion, or classified as a security risk, inheritance of company resources can be prohibited for this employee. The group assignment is maintained but the assignment has no effect.

DBQueue Processor monitors changes to the XOrigin column. The XIsInEffect column is recalculated when changes are made to the value in XOrigin.

# Preparing business roles for company resource assignments

You should check the following settings and make adjustments as required:

- Specify whether employees, devices, and workdesks and company resources may be assigned to roles.
- Define the direction of inheritance with the hierarchy.
- Limit inheritance for specific roles if necessary.

You can specify whether inheritance of company resources can be limited for single employees, devices, or workdesks.

- If required, define roles that are mutually exclusive.

By specifying conflicting roles, you can prevent employees, devices, or workdesks being added to roles which contain mutually excluding company resources.

## Detailed information about this topic

- [Permitting assignments of employees, devices, workdesks, and company resources to business roles](#) on page 23
- [Specifying the direction of inheritance](#) on page 24
- [Blocking inheritance using business roles](#) on page 25

- [Preventing employees, devices, or workdesks from inheriting individual business roles](#) on page 25
- [Preventing inheritance to individual employees, devices, or workdesks](#) on page 26
- [Defining inheritance exclusion for business roles](#) on page 54
- [Restricting assignment of employees to multiple business roles](#) on page 28

## Possible assignments of company resources through business roles

Employees, devices, and workdesks can inherit company resources through indirect assignment. To do this, employees, devices, and workdesks may be members of as many roles as required. Employees, devices, and workdesks obtain the necessary company resources through defined rules.

To assign company resources to roles, apply the appropriate tasks to the roles.

The following table shows the possible assignments of company resources to employees, workdesks, and devices using roles.

**NOTE:** Company resources are defined in the One Identity Manager modules and are not available until the modules are installed.

**Table 5: Possible assignments of company resources through roles**

| Assignable Company Resource                  | Members in Roles   |           |
|--|--|-----------|
|  | Employees  | Workdesks |
| Resources                                    | Possible   | -         |
| Account definitions                          | Possible   |           |
| Groups of custom target systems              | Possible (assigns to all an employee's custom defined target systems user accounts, for which group inheritance is authorized)                                   | -         |
| System entitlements of custom target systems | Possible (assigns to all an employee's custom defined target systems user accounts, for which system entitlement inheritance is authorized)                      | -         |
| Active Directory groups                      | Possible (assigns to all an employee's Active Directory user accounts and Active Directory contacts, for which Active Directory group inheritance is authorized) | -         |
| SharePoint groups                            | Possible (assigns to all an employee's SharePoint user accounts for which  | -         |

| Assignable Company Resource                | Members in Roles  |           |
|--|---|-----------|
|  | Employees   | Workdesks |
|  | SharePoint group inheritance is authorized)   |           |
| SharePoint roles                           | Possible (assigns to all an employee's SharePoint user accounts for which SharePoint role inheritance is authorized)                          | -         |
| LDAP groups                                | Possible (assigns to all an employee's LDAP user accounts for which LDAP group inheritance is authorized)                                     | -         |
| Notes groups                               | Possible (assigns to all an employee's Notes user accounts for which Notes group inheritance is authorized)                                   | -         |
| SAP groups                                 | Possible (assigns to all an employee's SAP user accounts, in the same SAP system and for which SAP group inheritance is authorized)           | -         |
| SAP profiles                               | Possible (assigns to all an employee's SAP user accounts, in the same SAP system and for which SAP profile inheritance is authorized)         | -         |
| SAP roles                                  | Possible (assigns to all an employee's SAP user accounts, in the same SAP system and for which SAP role inheritance is authorized)            | -         |
| SAP parameters                             | Possible (assigns to all an employee's SAP user accounts in the same SAP system)  | -         |
| Structural profiles                        | Possible (assigns to all an employee's SAP user accounts, in the same SAP system and for which structural profile inheritance is authorized)  | -         |
| BI analysis authorizations                 | Possible (assigns to all an employee's BI user accounts, in the same system and for which group inheritance is authorized)                    | -         |
| Azure Active Directory groups              | Possible (assigns to all an employee's Azure Active Directory user accounts for which Azure Active Directory group inheritance is authorized) | -         |
| Azure Active Directory administrator roles | Possible (assigns to all an employee's  | -         |

| Assignable Company Resource                   | Members in Roles   |           |
|---|--|-----------|
|   | Employees  | Workdesks |
|   | Azure Active Directory user accounts for which Azure Active Directory administrator role inheritance is authorized)  |           |
| Azure Active Directory subscriptions          | Possible (assigns to all an employee's Azure Active Directory user accounts for which Azure Active Directory subscription inheritance is authorized)                       | -         |
| Disabled Azure Active Directory service plans | Possible (assigns to all an employee's Azure Active Directory user accounts for which disabled Azure Active Directory service plans inheritance is authorized)             | -         |
| Cloud groups                                  | Possible (assigns to all an employee's user accounts for which cloud group inheritance is authorized)  | -         |
| Cloud system entitlements                     | Possible (assigns to all an employee's user accounts for which cloud system entitlement inheritance is authorized)   | -         |
| Unix groups                                   | Possible (assigns to all an employee's Unix user accounts for which Unix group inheritance is authorized)  | -         |
| E-Business Suite permissions                  | Possible (assigns to all an employee's E-Business Suite user accounts, in the same E-Business Suite system and for which E-Business Suite group inheritance is authorized) | -         |
| PAM user groups                               | Possible (assigns to all an employee's PAM user accounts for which PAM group inheritance is authorized)  | -         |
| Google Workspace products and SKUs            | Possible (assigns to all an employee's Google Workspace user accounts, in the same customer and for which Google Workspace products and SKU inheritance is authorized)     | -         |
| Google Workspace groups                       | Possible (assigns to all an employee's Google Workspace user accounts, in the same customer and for which Google Workspace group inheritance is authorized)                | -         |

| Assignable Company Resource                      | Members in Roles  |           |
|--|---|-----------|
|  | Employees   | Workdesks |
| SharePoint Online groups                         | Possible (assigns to all an employee's SharePoint Online user accounts for which SharePoint Online group inheritance is authorized)   | -         |
| SharePoint Online roles                          | Possible (assigns to all an employee's SharePoint Online user accounts for which SharePoint Online role inheritance is authorized)  | -         |
| Office 365 groups                                | Possible (assigns to all an employee's Azure Active Directory user accounts for which Office 365 group inheritance is authorized)   | -         |
| Exchange Online mail-enabled distribution groups | Possible (assigns to all an employee's Exchange Online mailboxes, Exchange Online mail users and Exchange Online mail contacts for which Exchange Online mail-enabled distribution group inheritance is authorized) | -         |
| System roles                                     | Possible  | Possible  |
| Subscribable reports                             | Possible  | -         |
| Software   | Possible  | Possible  |

## Related topics

- [Assigning business roles to company resources](#) on page 43

# Permitting assignments of employees, devices, workdesks, and company resources to business roles

The default method for assigning company resources is through secondary assignment. For this, employees, devices, and workdesks as well as company resources are added to roles through secondary assignment.

Secondary assignment of objects to role in a role class is defined by the following options:

- **Assignments allowed:** This option specifies whether assignments of respective object types to roles of this role class are allowed in general.

- **Direct assignments allowed:** Use this option to specify whether respective object types can be assigned directly to roles of this role class. Set this option if, for example, resources are assigned to departments, cost centers, or locations over the assignment form in the Manager.

**NOTE:** If this option is not set, the assignment of each object type is only possible through requests in the IT Shop, dynamic roles, or system roles.

### Example:

To assign employees directly to a business role in the Manager, enable the **Assignment allowed** and the **Direct assignment allowed** options on the **Employees** entry in the **Business role** role class.

If employees can only obtain membership in a business role through the IT Shop, enable the **Assignment allowed** option but not the **Direct assignment allowed** option on the **Employees** entry in the **Business role** role class. A corresponding assignment resource must be available in the IT Shop.

### To configure assignments to roles of a role class

1. In the Manager, select role classes in the **Business roles > Basic configuration data > Role classes** category.
2. Select the **Configure role assignments** task.
3. Use the **Allow assignments** column to specify whether assignment is generally allowed.

**NOTE:** You can only reset the **Assignment allowed** option if there are no assignments of the respective objects to roles of this role class and none can arise through existing dynamic roles.

4. Use the **Allow direct assignments** column to specify whether a direct assignment is allowed.

**NOTE:** You can only reset the **Direct assignment allowed** option if there are no direct assignments of the respective objects to roles of this role class.

5. Save the changes.

## Specifying the direction of inheritance

The direction of inheritance decides the distribution of company resources within a role hierarchy. The direction of inheritance is defined by the role classes.

The direction of inheritance can only be specified when a role class is added.

- Set **Inherited top down** to specify top-down inheritance.
- Set **Inherited bottom up** to specify bottom-up inheritance.

## Detailed information about this topic

- [Inheritance directions within a hierarchy](#) on page 7
- [Role classes for business roles](#) on page 30

# Blocking inheritance using business roles

There are particular cases where you may not want to have inheritance over several hierarchical levels. That is why it is possible to discontinue inheritance within a hierarchy. The effects of this depend on the chosen direction of inheritance.

- Roles marked with the **Block inheritance** option do not inherit any assignments from parent levels in top-down inheritance. It can, however, pass on its own directly assigned company resources to lower level structures.
- In bottom-up inheritance, the role labeled with the **Block inheritance** option inherits all assignments from lower levels in the hierarchy. However, it does not pass any assignments further up the hierarchy.

## *To discontinue inheritance for business roles*

1. In the Manager, in the **Organizations** category, select a business role.
2. Select the **Change main data** task.
3. Set the **Block inheritance** option.
4. Save the changes.

## Related topics

- [Discontinuing inheritance](#) on page 9
- [Preventing employees, devices, or workdesks from inheriting individual business roles](#) on page 25
- [Preventing inheritance to individual employees, devices, or workdesks](#) on page 26

# Preventing employees, devices, or workdesks from inheriting individual business roles

Company resource inheritance for single roles can be temporarily prevented. You can use this behavior, for example, to assign all required company resources to a role. Inheritance of company resources does not take place, however, unless inheritance is permitted for the role, for example, by running a defined approval process.

### ***To prevent inheritance for business roles***

1. In the Manager, in the **Organizations** category, select a business role.
2. Select the **Change main data** task.
3. Set one or more of the following options:
  - To prevent employees from inheriting, set the **Employees do not inherit** option.
  - To prevent devices from inheriting, set the **Devices do not inherit** option.
  - To prevent workdesks from inheriting, set the **Workdesks do not inherit** option.
4. Save the changes.

### **Related topics**

- [Blocking inheritance using business roles](#) on page 25
- [Preventing inheritance to individual employees, devices, or workdesks](#) on page 26

## **Preventing inheritance to individual employees, devices, or workdesks**

Inheritance of company resources can be prevented for single employees, devices, or workdesks. You can use this behavior to correct data after importing employees before and then apply inheritance.

### ***To prevent an employee from inheriting***

1. In the Manager, select the employee in the **Employees** category.
2. Select the **Change main data** task.
3. Set the **No inheritance** option.

The employee does not inherit company resources through roles.

**NOTE:** This option does not have any effect on direct assignments. Company resource direct assignments remain assigned.

4. Save the changes.

### ***To prevent an device from inheriting***

1. In the Manager, select the device in the **Devices & Workdesks > Devices** category.
2. Select the **Change main data** task.
3. Set the **No inheritance** option.

The device does not inherit company resources through roles.

**NOTE:** This option does not have any effect on direct assignments. Company resource direct assignments remain assigned.

4. Save the changes.

### ***To prevent a workdesk from inheriting***

1. In the Manager, select the workdesk in the **Devices & Workdesks > Workdesks** category.
2. Select the **Change main data** task.
3. Set the **No inheritance** option.

The workdesk does not inherit company resources through roles.

**NOTE:** This option does not have any effect on direct assignments. Company resource direct assignments remain assigned.

4. Save the changes.

### **Related topics**

- [Blocking inheritance using business roles](#) on page 25
- [Preventing employees, devices, or workdesks from inheriting individual business roles](#) on page 25

## **Inheritance exclusion: Specifying conflicting roles**

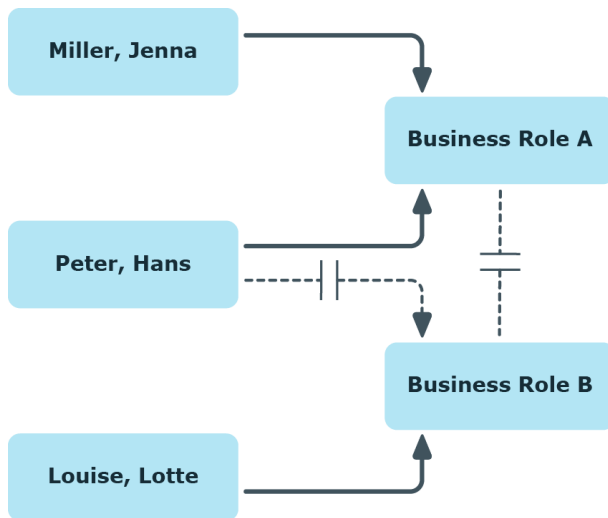
You can define conflicting roles to prevent employees, devices, or workdesks from being assigned to several roles at the same time and from obtaining mutually exclusive company resources through these roles. At the same time, specify which business roles are mutually exclusive. This means you may not assign these roles to one and the same employee (device, workdesk).

**NOTE:** Only roles, which are defined directly as conflicting roles cannot be assigned to the same employee (device, workdesk). Definitions made on parent or child roles do not affect the assignment.

### **Example:**

The business role B has been entered as conflicting role in business role Jenna Miller and Hans Peter are members of business role A. Louise Lotte is member of business role B. Hans Peters cannot be assigned to business role B. Apart from that, One Identity Manager also prevents Jenna Miller from being assigned to business role B and Louise Lotte to business role A.

**Figure 12: Members in conflicting roles**



#### **To configure inheritance exclusion**

- In the Designer, set the **QER | Structures | ExcludeStructures** configuration parameter and compile the database.

**NOTE:** If you disable the configuration parameter at a later date, model components and scripts that are not longer required, are disabled. SQL procedures and triggers are still carried out. For more information about the behavior of preprocessor relevant configuration parameters and conditional compiling, see the *One Identity Manager Configuration Guide*.

#### **Related topics**

- [Defining inheritance exclusion for business roles](#) on page 54

## **Restricting assignment of employees to multiple business roles**

In certain circumstances you might want an employee to be assigned to only one business role such as, within a project structure.

To map this behavior, you can use the **No multiple assignment of employees** option. You can enable the option for role classes and role types.

- If a role class has this option enabled, an employee can be assigned to only one business role of this role class. Assignment of the employee to other business roles

belonging to this role class is not allowed.

- If a role type has this option enabled, an employee can only be assigned one business role of this role type. It is not allowed to assign the employee to other business roles belonging to this role type.

**NOTE:**

- Only for direct assignments of employees to business roles are verified.
- Use the **Multiple role assignments despite IsPersonAssignOnce on OrgRoot** and **Multiple role assignments despite IsPersonAssignOnce on OrgType** consistency checks to identify invalid assignments to business roles. These assignments can originate from dynamic roles or through purchase orders, for example. For more information about consistency checking, see the *One Identity Manager Operational Guide*.
- If a person has already been assigned to multiple business roles of a role class or role type, then the option cannot be set again for this role class or role type.

## Related topics

- [Role classes for business roles](#) on page 30
- [Role types](#) on page 32

# Base data for business roles

The following basic information is relevant for building up hierarchical roles in One Identity Manager.

- Configuration parameters  
Use configuration parameters to configure the behavior of the system's basic settings. One Identity Manager provides default settings for different configuration parameters. Check the configuration parameters and modify them as necessary to suit your requirements.  
Configuration parameters are defined in the One Identity Manager modules. Each One Identity Manager module can also install configuration parameters. In the Designer, you can find an overview of all configuration parameters in the **Base data > General > Configuration parameters** category.
- Role classes  
Role classes form the basis of mapping hierarchical roles in One Identity Manager. Role classes are used to group similar roles together.
- Role types  
Create role types in order to classify roles. Roles types can be used to map roles in the user interface, for example.
- Functional areas

To analyze rule checks for different areas of your company in the context of identity audit, you can set up functional areas. Functional areas can be assigned to roles. You can enter criteria that provide information about risks from rule violations for functional areas and roles. Moreover, functional areas can be used during peer group analysis of requests or attestation cases.

- **Attestors**

In One Identity Manager, you can assign business roles to employees who can be brought in as attestors in attestation cases, provided that the approval workflow is set up accordingly. To do this, assign the business roles to application roles for attestors. For detailed information about attestation, see the *One Identity Manager Attestation Administration Guide*.

A default application role for attestors is available in One Identity Manager. You may create other application roles as required. For detailed information about application roles, see the *One Identity Manager Authorization and Authentication Guide*.

- **Role approvers and role approvers (IT)**

In One Identity Manager, you can assign business roles to employees who can be brought in as approvers in approval processes for IT Shop requests, provided that the approval workflow is set up accordingly. To do this, assign the business roles to application roles for approvers. For more information, see the *One Identity Manager IT Shop Administration Guide*.

Default application roles for approvers and approvers (IT) are available in One Identity Manager. You may create other application roles as required. For detailed information about implementing and editing application roles, see the *One Identity Manager Authorization and Authentication Guide*.


## Detailed information about this topic

- [Role classes for business roles](#) on page 30
- [Role types](#) on page 32
- [Functional areas](#) on page 34
- [Attestors](#) on page 35
- [Role approvers and role approvers \(IT\)](#) on page 36

## Role classes for business roles



Business roles are grouped by role class in the navigation view. Each business role is assigned to exactly one role class. You must define suitable role classes before you can add business roles. You can permit employee, device, workdesk, and company resource assignments for the role classes.

### To create or edit role classes

1. In the Manager, select the **Business roles > Basic configuration data > Role classes** category.
2. In the result list, select the role class and run the **Change main data** task.
  - OR -
  - Click  in the result list.
3. Edit the role class's main data.
4. Save the changes.

Enter the following main data of a role class.

**Table 6: Role class properties**

| Property                            | Description   |
|-------------------------------------|---|
| Role class                          | Role class description. The role class is displayed in the Manager under this name in the navigation view. Translate the given text using the  button.   |
| Attestors                           | <p>Applications role whose members are authorized to approve attestation instances for all roles in this role class.</p> <p>To create a new application role, click . Enter the application role name and assign a parent application role.</p> <p>  <b>NOTE:</b> This property is available if the Attestation Module is installed.</p> |
| Description                         | Text field for additional explanation.  |
| Inherited top-down                  | Direction of inheritance top-down.  |
| Inherited bottom-up                 | Direction of inheritance bottom-up.   |
| Delegable                           | Specifies whether memberships in roles of this role class can be delegated.   |
| Assignments permitted               | Specifies whether assignments of respective object types to roles of this role class are permitted in general. Configure the permitted assignments in the Manager using the <b>Configure role assignments</b> task.   |
| Direct assignments allowed          | Specifies whether respective object types can be assigned directly to roles of this role class. Configure the permitted assignments in the Manager using the <b>Configure role assignments</b> task.  |
| No multiple assignment of employees | Specifies whether an employee can be assigned to only one business role of this role class. If a role class has this option enabled, an employee can be assigned to only one business role of this role class. Assignment of the employee to other business roles belonging to this role class is not allowed.  |

## Related topics

- [Inheritance directions within a hierarchy](#) on page 7
- [Permitting assignments of employees, devices, workdesks, and company resources to business roles](#) on page 23

# Assigning role types to role classes

## *To assign a role type to a role class*

1. In the Manager, select the **Business roles > Basic configuration data > Role classes** category.
2. In the result list, select the role class.
3. Select the **Assign role types** task.
4. In the **Add assignments** pane, assign role types.

**TIP:** In the **Remove assignments** pane, you can remove assigned role types.

## *To remove an assignment*

- Select the role type and click .

## Related topics

- [Role types](#) on page 32
- [Creating role types](#) on page 33
- [Assigning role classes to role types](#) on page 34

# Role types

To achieve better classification, you can define role types and assign them to role classes and roles. The following restrictions apply:

- You can assign a role type to several role classes.
- If you assign role types to a role class you can only select these role types for the roles of this role class. Other role types are not available for selection.
- If you do not assign a role type to a role class, you can only use role types that are not assigned to any other role class for roles in this role class.
- The **Business role** role type is predefined. This role type cannot be assigned to the **Department**, **Cost center**, or **Location** role classes. Assign this role type to role classes that map business roles.



### Example:

The **Business role** role type is predefined. The **Region**, **Country**, **Sales**, and **Development** role types are also created.

- The **Business roles** role type is assigned to the **External projects** role class.  
The **Business roles** role type can also be given to roles of this role class.
- The **Business roles**, **Region**, and **Country** role types are assigned to the **Employee** role class.  
The **Business roles**, **Region**, and **Country** role types can also be given to roles of this role class.
- The **Region** and **Country** role types are assigned to the **Location** role class.  
The **Region** and **Country** role types can also be given locations.
- The **Cost center** and **Department** role classes are not assigned any role types.  
The **Sales** and **Development** role types can also be given to cost centers and departments.

## Creating role types

### To create role types

1. In the Manager, select the **Business roles > Basic configuration data > Role types** category.
2. Click  in the result list.
3. Enter the following information:
  - **Role type:** Role type name. Translate the given text using the  button.
  - **Description:** (Optional) Text field for additional explanation.
  - **No multiple assignment of employees:** Specifies whether an employee is only assigned one business role of this role type. If a role type has this option enabled, an employee can only be assigned one business role of this role type. Assignment of the employee to other business roles belonging to this role type is not allowed.  


**NOTE:** This option does not work for departments, cost centers, and locations.
4. Save the changes.

# Assigning role classes to role types

## *To assign role classes to a role type*

1. In the Manager, select the **Business roles > Basic configuration data > Role types** category.
2. Select the role type in the result list.
3. Select the **Assign role classes** task.
4. In the **Add assignments** pane, select the role class and assign business roles.  
**TIP:** In the **Remove assignments** pane, you can remove assigned business roles.

### **To remove an assignment**

- Select the business role and double-click .
5. Save the changes.

## Related topics

- [Role types](#) on page 32
- [Assigning role types to role classes](#) on page 32

# Functional areas

To analyze rule checks for different areas of your company in the context of identity audit, you can set up functional areas. Functional areas can be assigned to hierarchical roles and service items. You can enter criteria that provide information about risks from rule violations for functional areas and hierarchical roles. To do this, you specify how many rule violations are permitted in a functional area or a role. You can enter separate assessment criteria for each role, such as a risk index or transparency index.

Moreover, functional areas can be replaced by peer group analysis during request approvals or attestation cases.


### **Example: Use of functional areas**

To assess the risk of rule violations for business roles. Proceed as follows:

1. Set up functional areas.
2. Assign business roles to the functional areas.
3. Define assessment criteria for the business roles.
4. Specify the number of rule violations allowed for the functional area.

5. Assign compliance rules required for the analysis to the functional area.
6. Use the One Identity Manager report function to create a report that prepares the result of rule checking for the functional area by any criteria.

### **To create or edit a functional area**

1. In the Manager, select the **Business Roles > Basic configuration data > Functional areas** category.
2. In the result list, select a function area and run the **Change main data** task.  
- OR -  
Click  in the result list.
3. Edit the function area main data.
4. Save the changes.

Enter the following data for a functional area.

**Table 7: Functional area properties**

| Property                       | Description   |
|--------------------------------|---|
| Functional area                | Description of the functional area  |
| Parent Functional area         | Parent functional area in a hierarchy.<br>Select a parent functional area from the list for organizing your functional areas hierarchically.  |
| Max. number of rule violations | List of rule violation valid for this functional area. This value can be evaluated during the rule check.<br><b>NOTE:</b> This property is available if the Compliance Rules Module is installed. |
| Description                    | Text field for additional explanation.  |

### **Related topics**

- *One Identity Manager Compliance Rules Administration Guide*

## **Attestors**

**NOTE:** This function is only available if the Attestation Module is installed.

In One Identity Manager, you can assign business roles to employees who can be brought in as attestors in attestation cases, provided that the approval workflow is set up accordingly. To do this, assign the business roles to application roles for attestors. For

detailed information about attestation, see the *One Identity Manager Attestation Administration Guide*.

A default application role for attestors is available in One Identity Manager. You may create other application roles as required. For detailed information about application roles, see the *One Identity Manager Authorization and Authentication Guide*.

**Table 8: Default application roles for attestors**

| User                    | Tasks  |
|-------------------------|--|
| Business Role Attestors | <p>Attestors must be assigned to the <b>Identity Management   Business roles   Attestors</b> application role or a child application role.</p> <p>Users with this application role:</p> <ul style="list-style-type: none"><li>• Attest correct assignment of company resource to business roles for which they are responsible.</li><li>• Can view main data for these business roles but not edit them.</li></ul> <p><b>NOTE:</b> This application role is available if the module Attestation Module is installed.</p> |

#### **To add employees to default application roles for attestors**

1. In the Manager, select the **Business Roles > Basic configuration data > Attestors** category.
  2. Select the **Assign employees** task.
  3. In the **Add assignments** pane, add employees.
- TIP:** In the **Remove assignments** pane, you can remove assigned employees.

#### **To remove an assignment**

- Select the employee and double-click .
4. Save the changes.

## **Role approvers and role approvers (IT)**

In One Identity Manager, you can assign business roles to employees who can be brought in as approvers in approval processes for IT Shop requests, provided that the approval workflow is set up accordingly. To do this, assign the business roles to application roles for approvers. For more information, see the *One Identity Manager IT Shop Administration Guide*.

Default application roles for approvers and approvers (IT) are available in One Identity Manager. You may create other application roles as required. For detailed information about implementing and editing application roles, see the *One Identity Manager Authorization and Authentication Guide*.

**Table 9: Default application roles for approvers**

| User                         | Tasks   |
|------------------------------|---|
| Business Role Approvers      | <p>Approvers must be assigned to the <b>Identity Management   Business roles   Role approvers</b> application role or a child application role.</p> <p>Users with this application role:</p> <ul style="list-style-type: none"><li>• Are approvers for the IT Shop.</li><li>• Approve requests from business roles for which they are responsible.</li></ul>                      |
| Business Role Approvers (IT) | <p>IT role approvers must be assigned to the <b>Identity Management   Business roles   Role approvers (IT)</b> application role or a child application role.</p> <p>Users with this application role:</p> <ul style="list-style-type: none"><li>• Are IT role approvers for the IT Shop.</li><li>• Approve requests from business roles for which they are responsible.</li></ul> |

**To specify a role approver or role approver (IT)**

1. In the Manager, select the **Business Roles > Basic configuration data > Role approvers** category.


- OR -

In the Manager, select the **Business Roles > Basic configuration data > Role approvers (IT)** category.

2. Select the **Assign employees** task.
3. In the **Add assignments** pane, add employees.

**TIP:** In the **Remove assignments** pane, you can remove assigned employees.


**To remove an assignment**

- Select the employee and double-click .
4. Save the changes.

## Creating and editing business roles

Business roles are grouped by role class in the navigation view. Each business role is assigned to exactly one role class. You must define suitable role classes before you can add business roles.

### ***To create or edit business roles***

1. In the Manager, select the **Business roles > <role class>** category.
2. In the result list, select a business role and run the **Change main data** task.
  - OR -
  - Click  in the result list.
3. Edit the business role's main data.
4. Save the changes.




### **Related topics**





- [Role classes for business roles](#) on page 30

## **General main data for business roles**

Enter the following main data of a business role.

**Table 10: General main data of a business role**

| <b>Property</b>      | <b>Description</b>   |
|----------------------|--|
| Business role        | Business role name. Translate the given text using the  button.   |
| Short name           | Short name for the business role.  |
| Internal name        | Additional identifier for the business role.   |
| Role class           | Role class to which the business role is assigned. The value is preset with the role classes selected in the navigation view. If a new business role is added, you can assign any role class to it.  |
| Parent business role | Parent of business role in the hierarchy.<br>To organize business roles hierarchically, select the parent business role in the menu. Only the business roles that belong to the same role class can be selected. Leave this field empty if the business role is at the top level of the business role hierarchy. |
| Full name            | Complete name of business roles including parent business roles. Translate the given text using the  button.  |
| Role type            | Select a role type from the menu.<br>To create a new role type, click  . Enter a name and description for the role type.  |
| Role                 | Application role whose members approve IT Shop requests for members of   |

| Property             | Description  |
|----------------------|--|
| approver             | <p>this business role.</p> <p>To create a new application role, click . Enter the application role name and assign a parent application role.</p>   |
| Role approver (IT)   | <p>Application role whose members approve IT Shop requests for members of this business role.</p> <p>To create a new application role, click . Enter the application role name and assign a parent application role.</p>  |
| Manager              | Manager responsible for the business role.   |
| 2nd Manager          | Deputy business role manager.  |
| Additional manager   | <p>Application role for a group of managers and deputies who manage this business role.</p> <p>To create a new application role, click . Enter the application role name and assign a parent application role.</p>  |
| Attestors            | <p>Applications role whose members are authorized to approve attestation cases for this business role.</p> <p>To create a new application role, click . Enter the application role name and assign a parent application role.</p> <p><b>  NOTE:</b> This property is available if the Attestation Module is installed.</p>                      |
| Department           | Department to which the business role is primary assigned.   |
| Location             | Location to which the business role is primary assigned.   |
| Cost center          | Cost center to which the business role is primary assigned.  |
| Description          | Text field for additional explanation.   |
| Comment              | Text field for additional explanation.   |
| Remarks              | Text field for additional explanation.   |
| Certification status | <p>Business role certification status. You can select the following certification statuses:</p> <ul style="list-style-type: none"> <li>• <b>New:</b> The business roles was newly added to the One Identity Manager database.</li> <li>• <b>Certified:</b> The business role main data was granted approval by the manager.</li> <li>• <b>Denied:</b> The business role main data was denied approval by the manager.</li> </ul> |
| Import data source   | Target system or data source, from which the data set was imported.  |

| Property                  | Description  |
|---------------------------|--|
| Block inheritance         | Specifies whether inheritance for this business role can be discontinued. Set this option to discontinue inheritance within the business role hierarchy. |
| X500 nodes                | Select this option to label a cost center for exporting to an X500 schema.   |
| Employees do not inherit  | Specifies whether employee inheritance should be temporarily prevented for this business role.   |
| Devices do not inherit    | Specifies whether device inheritance should be temporarily prevented for this business role.   |
| Workdesks do not inherit  | Specifies whether workdesk inheritance should be temporarily prevented for this business role.   |
| Dynamic roles not allowed | Specifies whether a dynamic role can be created for the business role.   |

## Related topics

- [Role classes for business roles](#) on page 30
- [Role types](#) on page 32
- [Role approvers and role approvers \(IT\)](#) on page 36
- [Attestors](#) on page 35
- [Preventing employees, devices, or workdesks from inheriting individual business roles](#) on page 25
- [Creating dynamic roles for business roles](#) on page 52

# Address information for business roles

Enter the following main data of contacting the business role.

**Table 11: Business role address data**

| Property | Description                |
|----------|----------------------------|
| Address  | Business role mail address |
| Street   | Street or road.            |
| Building | Building                   |

| Property       | Description  |
|----------------|--|
| Zip code       | Zip code.  |
| City           | City.  |
| Country        | Country. You require this to determine the employee's language and working hours. For more information, see the <i>One Identity Manager Identity Management Base Module Administration Guide</i> . |
| State          | State. You require this to determine the employee's language and working hours. For more information, see the <i>One Identity Manager Identity Management Base Module Administration Guide</i> .   |
| Phone          | Business role telephone number.  |
| Quick dial     | Telephone short entry (without code).  |
| Room           | Room.  |
| Comment (room) | Text field for additional explanation.   |

## Functional area and risk assessment for business roles

Here, you can enter values to classify the business roles, which analyze the risk of a business role with respect to identity audit.

**Table 12: Main data of a business role's functional area**

| Property                | Description   |
|-------------------------|---|
| Functional area         | Department functional area This data is required for department's risk assessment.  |
| Risk index (calculated) | A risk index is calculated for the department risk assessment based on assigned company resources. This field is only visible if the <b>QER   CalculateRiskIndex</b> configuration parameter is set. For more information about risk assessment, see the <i>One Identity Manager Risk Assessment Administration Guide</i> . |
| Transparency index      | Specifies how well you can trace location assignments. Use the slider to enter a value between <b>0</b> and <b>1</b> .<br><b>0</b> : no transparency<br><b>1</b> : full transparency  |
| Max. number of rule     | Number of rule violations allowed in this business role. The value can be evaluated when compliance rules are checked. For more information, see  |

| Property               | Description  |
|------------------------|--|
| violations             | the <i>One Identity Manager Compliance Rules Administration Guide</i> .<br><b>NOTE:</b> This property is only available if the Compliance Rules Module is installed. |
| Turnover for this unit | Business roles turnover.   |
| Earnings for this unit | Business roles earnings.   |

## Related topics

- [Functional areas](#) on page 34

# Customizing main data for business roles

Additional company-specific information. Use the Designer to customize display names, formats, and templates for the input fields.

# Assigning employees, devices, and workdesks to business roles

In order for employees, devices, and workdesks to inherit company resources, you must assign the objects to roles.

## ***To add employees, devices, and workdesks to a business role***

1. In the Manager, select the **Business roles > <role class>** category.
2. Select the business role in the result list.
3. Select the appropriate task.
  - **Assign employees**
  - **Assign devices**
  - **Assign workdesks**
4. In the **Add assignments** pane, assign objects.

**TIP:** In the **Remove assignments** pane, you can remove object assignments.

### **To remove an assignment**

- Select the object and double-click .

5. Save the changes.

**TIP:** Use dynamic roles to assign employees, devices, and workdesks to business roles automatically.

### **Related topics**

- [Permitting assignments of employees, devices, workdesks, and company resources to business roles](#) on page 23
- [Assigning business roles to company resources](#) on page 43
- [Creating dynamic roles for business roles](#) on page 52

## **Assigning business roles to company resources**

The default method of assigning employees, devices, and workdesks is indirect assignment. This allocates an employee, a device or a workdesk to business roles, cost centers, or locations. The total of assigned company resources for an employee, a device or workdesk is calculated from their position within the hierarchy, the direction of inheritance and the company resources assigned to these roles.

Indirect assignment is divided into:

- Secondary assignment

You make a secondary assignment by classifying an employee, a device, or a workdesk within a role hierarchy. Secondary assignment is the default method for assigning and inheriting company resources through roles.

**IMPORTANT:** You use role classes to specify whether a secondary assignment of company resources is possible.

If an employee, device or a workdesk fulfills the requirements of a dynamic role, the object is added dynamically to the corresponding company structure and can obtain company resources through it.

- Primary assignment

You make a primary assignment using a business role, cost center, or location foreign key reference in employee, device and workdesk objects. Primary assignment inheritance can be enable through configuration parameters.

You must assign company resources to business roles, cost centers, or locations so that employees, devices, and workdesks can inherit company resources. The following table shows the possible company resources assignments.

**NOTE:** Company resources are defined in the One Identity Manager modules and are not available until the modules are installed.

**Table 13: Possible company resource assignments**

| <b>Company resource</b>                       | <b>Available in Module</b>                    |
|---|---|
| Resources                                     | always  |
| Account definitions                           | Target System Base Module                     |
| Groups of custom target systems               | Target System Base Module                     |
| System entitlements of custom target systems  | Target System Base Module                     |
| Active Directory groups                       | Active Directory Module                       |
| SharePoint groups                             | SharePoint Module                             |
| SharePoint roles                              | SharePoint Module                             |
| LDAP groups                                   | LDAP Module                                   |
| Notes groups                                  | Domino Module                                 |
| SAP groups                                    | SAP R/3 User Management module Module         |
| SAP profiles                                  | SAP R/3 User Management module Module         |
| SAP roles                                     | SAP R/3 User Management module Module         |
| SAP parameters                                | SAP R/3 User Management module Module         |
| Structural profiles                           | SAP R/3 Structural Profiles Add-on Module     |
| BI analysis authorizations                    | SAP R/3 Analysis Authorizations Add-on Module |
| E-Business Suite permissions                  | Oracle E-Business Suite Module                |
| System roles                                  | System Roles Module                           |
| Subscribable reports                          | Report Subscription Module                    |
| Software                                      | Software Management Module                    |
| Azure Active Directory groups                 | Azure Active Directory Module                 |
| Azure Active Directory administrator roles    | Azure Active Directory Module                 |
| Azure Active Directory subscriptions          | Azure Active Directory Module                 |
| Disabled Azure Active Directory service plans | Azure Active Directory Module                 |
| Unix groups                                   | Unix Based Target Systems Module              |
| Cloud groups                                  | Cloud Systems Management Module               |


| Company resource                   | Available in Module                  |
|------------------------------------|--------------------------------------|
| Cloud system entitlements          | Cloud Systems Management Module      |
| PAM user groups                    | Privileged Account Governance Module |
| Google Workspace groups            | Google Workspace Module              |
| Google Workspace products and SKUs | Google Workspace Module              |
| SharePoint Online groups           | SharePoint Online Module             |
| SharePoint Online roles            | SharePoint Online Module             |

### **To add company resources to a hierarchical role**

1. In the Manager, select the **Business roles > <role class>** category.
2. Select the role in the result list.
3. Select the task to assign the corresponding company resource.
4. In the **Add assignments** pane, assign company resources.

**TIP:** In the **Remove assignments** pane, you can remove company assignments.

#### **To remove an assignment**

- Select the company resource and double-click .
5. Save the changes.

### **Detailed information about this topic**

- [Basic principles for assigning company resources](#) on page 11
- [Permitting assignments of employees, devices, workdesks, and company resources to business roles](#) on page 23

### **Related topics**

- [Possible assignments of company resources through business roles](#) on page 20
- [Assigning employees, devices, and workdesks to business roles](#) on page 42
- [Creating dynamic roles for business roles](#) on page 52

## **Analyzing role memberships and employee assignments**


The **Overview of all assignments** report is displayed for some objects, such as authorizations, compliance rules, or roles. The report finds all the roles, for example, departments, cost centers, locations, business roles, and IT Shop structures in which there


are employees who own the selected base object. In this case, direct as well as indirect base object assignments are included.



### Examples:

- If the report is created for a resource, all roles are determined in which there are employees with this resource.
- If the report is created for a group or another system entitlement, all roles are determined in which there are employees with this group or system entitlement.
- If the report is created for a compliance rule, all roles are determined in which there are employees who violate this compliance rule.
- If the report is created for a department, all roles are determined in which employees of the selected department are also members.
- If the report is created for a business role, all roles are determined in which employees of the selected business role are also members.

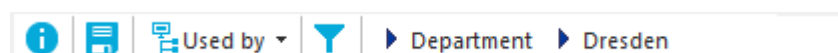
### To display detailed information about assignments

- To display the report, select the base object from the navigation or the result list and select the **Overview of all assignments** report.
- Click the  **Used by** button in the report toolbar to select the role class for which you want to determine whether roles exist that contain employees with the selected base object.





All the roles of the selected role class are shown. The color coding of elements identifies the role in which there are employees with the selected base object. The meaning of the report control elements is explained in a separate legend. To access the legend, click the  icon in the report's toolbar.

- Double-click a control to show all child roles belonging to the selected role.
- By clicking the  button in a role's control, you display all employees in the role with the base object.
- Use the small arrow next to  to start a wizard that allows you to bookmark this list of employees for tracking. This creates a new business role to which the employees are assigned.

**Figure 13: Toolbar of the Overview of all assignments report.**



**Table 14: Meaning of icons in the report toolbar**

| Icon  | Meaning   |
|---|---|
|  | Show the legend with the meaning of the report control elements |
|  | Saves the current report view as a graphic.                     |
|  | Selects the role class used to generate the report.             |
|  | Displays all roles or only the affected roles.                  |

## Setting up IT operational data for business roles

To create user accounts with the **Full managed** manage level, the required IT operating data must be determined. The operating data required to automatically supply an employee with IT resources is shown in the business roles, departments, locations, or cost centers. An employee is assigned a primary business role, primary location, primary department, or primary cost center. The necessary IT operating data is ascertained from these assignments and used in creating the user accounts. Default values are used if valid IT operating data cannot be found over the primary roles.

You can also specify IT operating data directly for a specific account definition.

### Example:

Normally, each employee in department A obtains a default user account in the domain A. In addition, certain employees in department A obtain administrative user accounts in the domain A.

Create an account definition A for the default user account of the domain A and an account definition B for the administrative user account of domain A. In the IT operating data mapping rule for the account definitions A and B, specify the **Department** property in order to determine the valid IT operating data.

Specify the effective IT operating data of department A for the domain A. This IT operating data is used for standard user accounts. In addition, for department A, specify the effective IT operating data of account definition B. This IT operating data is used for administrative user accounts.

For more information, see the *One Identity Manager Target System Base Module Administration Guide*.

### To define IT operating data

1. In the Manager, select the **Business roles > <role class>** category.
2. Select the role in the result list.
3. Select the **Edit IT operating data** task.
4. Click **Add** and enter the following data.
  - **Effects on:** Specify an IT operating data application scope. The IT operating data can be used for a target system or a defined account definition.

#### To specify an application scope

- a. Click ➔ next to the field.
  - b. Under **Table**, select the table that maps the target system for select the TSBAccountDef table or an account definition.
  - c. Select the specific target system or account definition under **Effects on**.
  - d. Click **OK**.
- **Column:** Select the user account property for which the value is set.

In the menu, you can select the columns that use the TSB\_ITDataFromOrg script in their template. For more information about this, see the *One Identity Manager Target System Base Module Administration Guide*.
  - **Value:** Enter a fixed value to assign to the user account's property.
5. Save the changes.

### It operating data for target systems

The IT operating data necessary in the One Identity Manager default configuration for automatically creating or changing employee user accounts and mailboxes in the target system is itemized in the following table.

**NOTE:** IT operating data is dependent on the target system and is contained in One Identity Manager modules. The data is not available until the modules are installed.

**Table 15: Target system dependent IT operating data**

| Target system type | IT operating data        |
|--------------------|--------------------------|
| Active Directory   | Container                |
|                    | Home server              |
|                    | Profile server           |
|                    | Terminal home server     |
|                    | Terminal profile server  |
|                    | Groups can be inherited  |
|                    | Identity                 |
|                    | Privileged user account  |
| Microsoft Exchange | Mailbox database         |
| LDAP               | Container                |
|                    | Groups can be inherited  |
|                    | Identity                 |
|                    | Privileged user account  |
| Domino             | Server                   |
|                    | Certificate              |
|                    | Template for mail file   |
|                    | Identity                 |
| SharePoint         | Authentication mode      |
|                    | Groups can be inherited  |
|                    | Roles can be inherited   |
|                    | Identity                 |
|                    | Privileged user account  |
| SharePoint Online  | Groups can be inherited  |
|                    | Roles can be inherited   |
|                    | Privileged user account. |
|                    | Authentication mode      |

| Target system type       | IT operating data                       |
|--------------------------|---|
| Custom target systems    | Container (per target system)           |
|                          | Groups can be inherited                 |
|                          | Identity                                |
|                          | Privileged user account                 |
| Azure Active Directory   | Groups can be inherited                 |
|                          | Administrator roles can be inherited    |
|                          | Subscriptions can be inherited          |
|                          | Disabled service plans can be inherited |
|                          | Identity                                |
|                          | Privileged user account                 |
|                          | Change password at next login           |
| Cloud target system      | Container (per target system)           |
|                          | Groups can be inherited                 |
|                          | Identity                                |
|                          | Privileged user account                 |
| Unix-based target system | Login shell                             |
|                          | Groups can be inherited                 |
|                          | Identity                                |
|                          | Privileged user account                 |
| Oracle E-Business Suite  | Identity                                |
|                          | Groups can be inherited                 |
|                          | Privileged user account.                |
| SAP R/3                  | Identity                                |
|                          | Groups can be inherited                 |
|                          | Roles can be inherited                  |
|                          | Profiles can be inherited               |
|                          | Structural profiles can be inherited    |
|                          | Privileged user account.                |
| Exchange Online          | Groups can be inherited                 |

| Target system type            | IT operating data                        |
|-------------------------------|--|
| Privileged Account Management | Authentication provider                  |
|                               | Identity                                 |
|                               | Groups can be inherited                  |
|                               | Privileged user account                  |
| Google Workspace              | Organization                             |
|                               | Identity                                 |
|                               | Groups can be inherited                  |
|                               | Products and SKUs can be inherited       |
|                               | Admin roles assignments can be inherited |
|                               | Privileged user account.                 |
|                               | Change password at next login            |

## Modify IT operating data

If IT operating data changes, you must transfer the changes to the existing user accounts. To do this, templates must be rerun on the affected columns. Before you can run the templates, you can check what effect a change to the IT operating data has on the existing user accounts. You can decide whether the change is transferred to the One Identity Manager database in the case of each affected column in each affected database.

### Prerequisites

- The IT operating data of a business role have been changed.
- OR -
- The default values in the IT operating data template were modified for an account definition.

**NOTE:** If the assignment of an employee to a primary business role changes, the templates are automatically run.

### To run the template

1. In the Manager, select the **<target system type> > Basic configuration data > Account definitions > Account definitions** category.
2. Select an account definition in the result list.
3. Select the **Run templates** task.

This displays a list of all user accounts that were created with the selected account definition and whose properties were changed by modifying the IT operating data. That means:

- **Old value:** Value of the object property before changing the IT operating data.
  - **New value:** Value of the object property after changing the IT operating data.
  - **Selection:** Specifies whether the new value is copied to the user account.
4. Mark all the object properties in the **selection** column that will be given the new value.
  5. Click **Apply**.

The templates are applied to all selected user accounts and properties.

## Creating dynamic roles for business roles

Use this task to define dynamic roles for individual business roles. Dynamic roles are used to specify role memberships dynamically. Employees, devices, and workdesks are not permanently assigned to a role, just when they fulfill certain conditions. A check is performed regularly to assess which employees (devices or workdesks) fulfill these conditions. This means the role memberships change dynamically. For example, company resources can be assigned dynamically to all employees in a business role in this way; if an employee leaves the department they immediately lose the resources assigned to them.

Dynamic roles always relate to the secondary role assignment of an employee object. Therefore secondary assignment of employees, devices, and workdesks to role classes must be permitted. If necessary, further configuration settings need to be made.

**NOTE:** The **Create dynamic role** task is only available for business roles that do not have the **Dynamic roles not allowed** option set.

For more detailed information about creating and editing dynamic roles, see the *One Identity Manager Identity Management Base Module Administration Guide*.

### **To create a dynamic role for a business role**

1. In the Manager, select the **Business roles > <role class>** category.
2. Select a business role in the result list.
3. Select the **Create dynamic role** task.
4. Enter the required main data.
5. Save the changes.

### ***To edit a dynamic role***

1. In the Manager, select the **Organizations > <role class> > Dynamic roles** category.
2. Select a business role in the result list.
3. Open the business role's overview form.
4. In the **Dynamic roles** form element, click on the name of the dynamic role.
5. Select the **Change main data** task.
6. Edit the dynamic role's main data.
7. Save the changes.

### **Related topics**

- [General main data for business roles](#) on page 38
- [Permitting assignments of employees, devices, workdesks, and company resources to business roles](#) on page 23

## **Assign organizations**

Use this task to map which relations exist between business roles and departments, cost centers and locations. This task has the same effect as assigning a department, cost center, or location on the business role main data form. The assignment is entered in the respective foreign key column in the base table.

### ***To assign a department, cost center, or location to business roles***

1. In the Manager, select the **Organizations > Departments, Organizations > Cost centers, or Organizations > Locations** category.
2. Select the role in the result list.
3. Select the **Assign employees** task.
4. In the **Add assignments** pane, assign business roles.  
The selected role is primarily assigned to all business roles as a department, cost center, or location.
5. Save the changes.

# Defining inheritance exclusion for business roles

You can define conflicting roles to prevent employees, devices, or workdesks from being assigned to several roles at the same time and from obtaining mutually exclusive company resources through these roles. At the same time, specify which business roles are mutually exclusive. This means you may not assign these roles to one and the same employee (device, workdesk).

**NOTE:** Only roles, which are defined directly as conflicting roles cannot be assigned to the same employee (device, workdesk). Definitions made on parent or child roles do not affect the assignment.

## To configure inheritance exclusion

- In the Designer, set the **QER | Structures | ExcludeStructures** configuration parameter and compile the database.

**NOTE:** If you disable the configuration parameter at a later date, model components and scripts that are not longer required, are disabled. SQL procedures and triggers are still carried out. For more information about the behavior of preprocessor relevant configuration parameters and conditional compiling, see the *One Identity Manager Configuration Guide*.

## To define inheritance exclusion for a business role

1. In the Manager, select the **Business roles > <role class>** category.
2. Select a business role in the result list.
3. Select **Edit conflicting business roles**.
4. In the **Add assignments** pane, assign business roles that are mutually exclusive to the selected business role.  
- OR -  
In the **Remove assignments** pane, remove the business roles that are no longer mutually exclusive.
5. Save the changes.

## Detailed information about this topic

- [Inheritance exclusion: Specifying conflicting roles](#) on page 27

# Assigning extended properties to business roles


You can assign extended properties to business roles. Extended properties are meta objects, such as operating codes, cost codes, or cost accounting areas that cannot be mapped directly in One Identity Manager. For more information about extended properties, see the *One Identity Manager Identity Management Base Module Administration Guide*.

## **To specify extended properties for a business role**

1. In the Manager, select the **Business roles > <role class>** category.
2. Select the business role in the result list.
3. Select the **Assign extended properties** task.
4. In the **Add assignments** pane, assign extended properties.

**TIP:** In the **Remove assignments** pane, you can remove assigned extended properties.

### **To remove an assignment**

- Select the extended property and double-click .
5. Save the changes.

# Creating assignment resources for application roles

You may add assignment resources to single business roles. This means you can limit assignment resources to a certain business role in the Web Portal. When the assignment resource is requested, it is no longer necessary to request the business role as well. It is automatically a part of the assignment request. For more information, see the *One Identity Manager IT Shop Administration Guide*.

## **To limit an assignment resource to a business role**

1. In the Manager, select the **Business roles > <role class>** category.
2. Select a business role in the result list.
3. Select the **Create assignment resource** task.

This starts a wizard that takes you through the steps for adding an assignment resource.

**NOTE:** Business roles associated with an assignment resource cannot be deleted until the associated assignment resource is deleted.

# Dynamic roles for business roles with incorrectly excluded employees

In the Manager, you can obtain an overview of all the dynamic roles with conflicting entries in the exclude list. This means that for at least one item in the list the following applies:

- The dynamic role condition does not apply.  
For example, this might occur if the dynamic role condition was changed after a person was entered in the exclude list.  
- OR -
- The excluded person is also assigned to the role in another way  
such as through inheritance or direct assignment.

Check these entries and correct the assignments.

## ***To check conflicting entries of business roles in the exclusion list***

1. In the Manager, select the **Business Roles > Troubleshooting > Dynamic roles with potentially incorrect excluded employees** category.
2. Select the dynamic role in the result list.
3. Select the **Exclude employees** task.

In the exclusion list you can see which employees are affected by the given conditions.

For more information about editing the dynamic roles' exclusion list, see the *One Identity Manager Identity Management Base Module Administration Guide*.

## **Related topics**

- [Creating dynamic roles for business roles](#) on page 52

# Reports about business roles

One Identity Manager makes various reports available containing information about the selected base object and its relations to other One Identity Manager database objects. The following reports are available for business roles.

**| NOTE:** Other sections may be available depending on the which modules are installed.

**Table 16: Reports about business roles**

| Report                              | Description   |
|-------------------------------------|---|
| Overview of all assignments         | This report finds all the roles in which employees from the selected business roles are also members.   |
| Show historical memberships         | This report lists all members of the selected business role and the length of their membership.   |
| Show products still to be approved  | The report shows all products for a business role whose requests can be approved by the business role's members.  |
| Business roles with high risk level | The report lists all business roles with a risk index equal or higher than the configurable risk index. The result can be limited to a specified role class. You can find this report in the <b>My One Identity Manager</b> category. |

### Related topics

- [Analyzing role memberships and employee assignments](#) on page 45

## Role mining in One Identity Manager

Business roles can be formed in two ways:

- Role modeling as described in [Managing business roles](#) on page 5.
- Role mining, by analyzing existing access permissions.

Analyzer uses the One Identity Manager program to make its own tools available for analyzing user accounts and permissions. The Analyzer supports analysis of business roles as well as the analysis of data quality with respect to the question: how well suited is the permissions data to partially automated role mining?

The Analyzer offers:

- Automatic analysis of permissions assignments base on cluster analysis algorithms with different weighting.
- Automatic analysis of existing structures and permissions of employees assigned in them
- Manual analysis of certain staff groups for role mining

The aim of role mining is to replace direct permissions, which previously were only granted to users in individual application systems, with indirect ones. This allows permissions, which users obtain through role association to be defined across the application system. Analyzer's aim is not only pure role mining but also classification of roles in a simple to administer hierarchical system. This can reduce the administration workload further and increase security for granting permissions.

### ***To user role mining in One Identity Manager***

- In the Designer, set the **QER | Org | RoleMining** configuration parameter.

**NOTE:** To use Analyzer for analyzing permissions, at least the Target System Base Module must be installed.

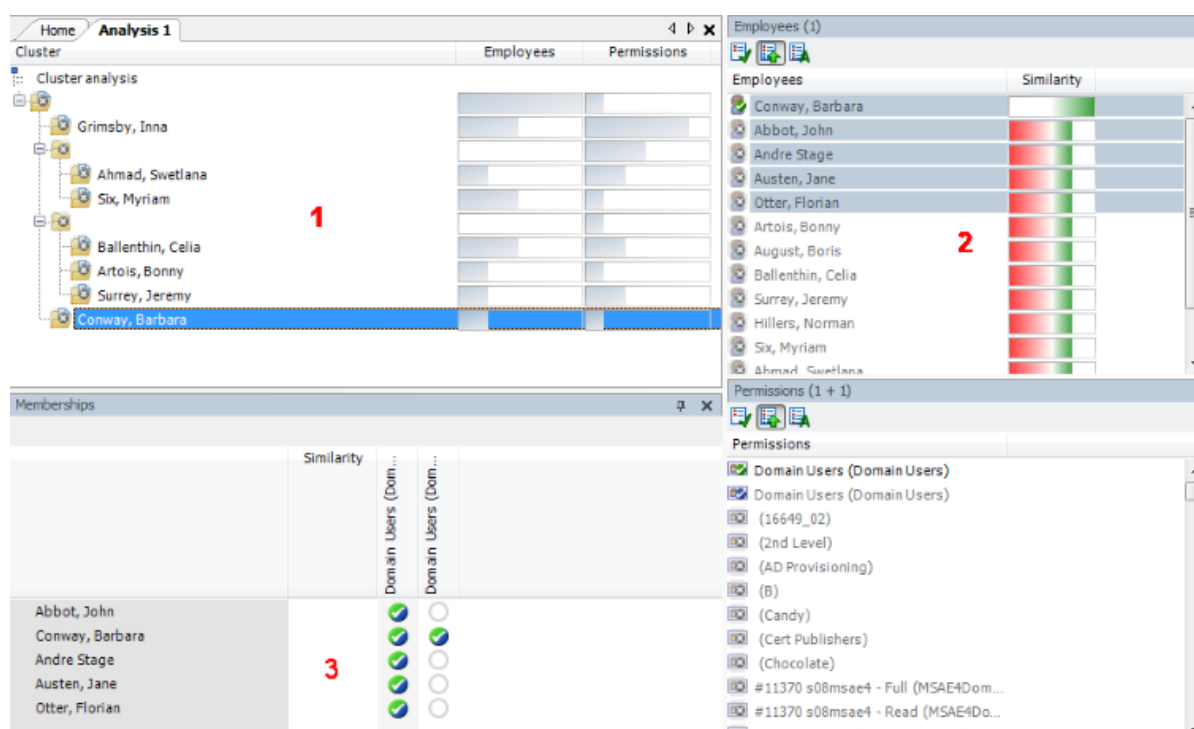
# Cluster analysis as a basis for role mining

The basis for role mining is always a cluster analysis when the Analyzer with help of mathematical algorithm tries to find single clusters, meaning employees with similar permissions. In the process, either hierarchical structures are built or predefined structures are applied that can be used for constructing your own role model.

In role mining, you not only try to find single clusters and assign these to business roles, but you also try to develop direct hierarchical role structures that can then be effectively used through standard inheritance mechanisms.

Automatic role mining supports One Identity Manager through two different cluster analysis methods that differ in the way they calculate the distances between individual clusters. The use of existing role structures, for example, organizational structure from ERP systems, is possible. Permissions analysis can then be used to assign permissions to these role structures. Lastly, role structures can be freely defined and assignment of permissions and employees can be manually evaluated based on existing permissions.

**Figure 14: Cluster analysis methods in the Analyzer**



In clustering methods, Analyzer calculates a frequency distribution from user permissions in the different application systems, like Active Directory, HCL Domino, or SAP R/3. Certain permissions may have a higher weighting in comparison to others. The number of a permissions' members can, for example, represent this sort of criteria. This is acknowledged through the Analyzer during calculation and taken into account by weighting the distance between clusters. This allows the hierarchical structures arising from the

analysis to be optimized in advance and the smallest possible number of roles to be attained.

## Working with the Analyzer program

Use the Analyzer to automatically detect and analyze data correlations in the database. For example, this information can be used to replace direct permissions assignments with indirect assignments therefore reducing the administration effort.

### Analyzer menu items

**Table 17: Meaning of items in the menu bar**

| Menu     | Menu item           | Meaning   | Shortcut         |
|----------|---------------------|---|------------------|
| Database | New connection      | Establishes a database connection.  | Ctrl + Shift + N |
|          | Save to database    | Changes to the data are saved to the connected One Identity Manager database. | Ctrl + Shift + S |
|          | Settings            | For configuring general program settings.                                     |                  |
|          | Exit                | Exits the program.  | Alt + F4         |
| Analysis | Previous assignment | Jumps to previous employee/permissions assignment.                            | Ctrl + U         |
|          | Next assignment     | Jumps to next employee/permissions assignment                                 | Ctrl + D         |
|          | Parent cluster      | Swaps to parent cluster in the hierarchy.                                     | Ctrl + P         |
|          | Reanalyze           | Reruns the analysis.  | F9               |
| Help     | Analyzer help       | Open the help program.  | F1               |
|          | Info                | Shows the version information for program.                                    |                  |

# Analyzer program settings

## *To change the program settings in the Analyzer*

1. In the Analyzer, select the **Database > Settings** menu item.
2. Customize the following settings.
  - **Language:** Language used for formatting data, such as date formats, time formats, and number formats.
  - **Other user interface language:** Language for the user interface. The initial program login uses the system language for the user interface. Changes to the language settings take effect after the program has been restarted. The language is set globally for all One Identity Manager programs, which means the language setting does not have to be configured for each program individually.
  - **Automatically close analysis information window on completion:** If this option is set and analyses are predefined, the information window is closed at the end of the analysis. If the option is not set, the information window is shown. Click the **Finished** button to close the window.
  - **Show permissions weighting:** Set this option to additionally display a weighting for the permissions.
  - **Role naming template:** Define a template for role names. This is used when to format new role names in predefined analysis methods.

The template support following variables:

    - %sequence%:** Sequential number
    - %object%:** Name of the first object in the cluster
    - %property%:** Name of the first property in the cluster
3. Save the settings with **OK**.

# Running an analysis in the Analyzer

Use the Analyzer to perform the following steps:

1. Specify the analysis method.
  - **Selecting analysis data using the wizard:** The initial data is collected using a wizard.
  - **Active Directory Employee Permissions:** The permissions of all employees with Active Directory group memberships are analyzed.

**NOTE:** Analysis methods are available if the Active Directory Module is installed.

- **Active Directory Employee Permissions and Departments:** The permissions of all employees with Active Directory group memberships are analyzed. Departments with Active Directory groups are also included in the analysis.

**NOTE:** Analysis methods are available if the Active Directory Module is installed.

- **LDAP Employee Permissions:** The permissions of all employees with LDAP group memberships are analyzed.

**NOTE:** Analysis methods are available if the LDAP Module is installed.

2. Verify the analysis results.
3. Create a new business role if required and assign the employees. Add the suggested changes to the One Identity Manager database.

### Detailed information about this topic

- [Selecting analysis data using the wizard](#) on page 62
- [Run predefined analysis](#) on page 64
- [Analysis evaluation](#) on page 65
- [Applying changes from the analysis](#) on page 67

## Selecting analysis data using the wizard




Before you start the analysis, you collect your initial data. The Analyzer accesses all permissions information in its own database and creates a mapping table with employees and their permissions. The result can be suggestions for single roles from analyzing a single application but also cross-system roles from analyzing permissions in several systems.

### *To select initial data with the wizard*

1. Start the Launchpad and log in to the One Identity Manager database.
2. Open the Launchpad and select **Analyze business roles** in the **Manage** section. This starts the Analyzer program.
3. On the Analyzer's start page, select the **Select data with wizard** analysis method and click **Start**.  
This starts the wizard.
4. On the start page, you specify the group of employee for analysis. Select one of the following selection categories and click **Next**.
  - **Structures:** Employees can be selected through organizations and business roles contained in One Identity Manager.

1. In the **Structures** list, select the organization or business role for analysis.
2. The employees assigned to this structure are displayed in the **Employees** list. Use the Show directly/indirectly assigned employees buttons in the title bar to filter the employees.

**Table 18: Icons for filtering the employee list**

| Icon  | Meaning                             |
|---|-------------------------------------|
|  | Show indirectly assigned employees. |
|  | Show directly assigned employees.   |
|  | Show employees from child nodes.    |

- **Query wizard:** Define the condition used to find the employees in the database. The wizard helps you to formulate a condition (where clause) for database queries. The complete database query is composed internally. The database query references the Person table.

For more information about using the wizard, see *One Identity Manager User Guide for One Identity Manager Tools User Interface*.

- **Menu:** The list displays all the employees in the One Identity Manager database. Use **Shift + select** or **Ctrl + select** to select several employees for analysis.
  - **Load wizard template:** Load an existing configuration. Select the template file and click **Open**.
5. On the **Select user accounts** page, select the target system whose user accounts and permissions will be included in the analysis. User **Ctrl + select** to multi-select target systems.
  6. On the **Select analysis method** page, you specify the analysis method. The following methods are available.

**Table 19: Analysis methods**

| Analysis method                                  | Description   |
|--|---|
| Simple cluster analysis/Complex cluster analysis | Permissions are grouped into new business roles using cluster analysis methods and employees are assigned.<br><br>The Analyzer supports automatic role mining by two different cluster analysis methods, which differ in terms of how they calculate the distances between individual clusters. |
| Decision hierarchy                               | Permissions are grouped into new business roles in a decision hierarchy and the employees are assigned. The number of   |

| Analysis method      | Description   |
|----------------------|---|
|                      | group members is taken as the decision criteria.  |
| Structure assignment | The permissions are assigned to an existing structure hierarchy. The use of existing structures, for example, organizational structure from ERP systems, is possible.   |
| Permissions analysis | Employee permissions are analyzed with the help of permissions analysis. Business roles are freely defined and assignments of permissions and employees are evaluated manually based on the existing permissions. |

7. On the last page you start the analysis.
  - a. (Optional) To reuse the configuration at a later time, set the **Save configuration as template** option. Select the directory path for saving the file using the file browser and click **Save**.
  - b. On the last page, click **Finish** to start the analysis.  
This loads the analysis data and starts the analysis. The results of the analysis are then displayed in the Analyzer.
8. Verify the analysis results.
9. Create a new business role if required and assign the employees. Add the suggested changes to the One Identity Manager database.

## Related topics

- [Analysis evaluation](#) on page 65
- [Applying changes from the analysis](#) on page 67

## Run predefined analysis

The following predefined analyses are provided:

- **Active Directory Employee Permissions:** The permissions of all employees with Active Directory group memberships are analyzed.  
| **NOTE:** Analysis methods are available if the Active Directory Module is installed.
- **Active Directory Employee Permissions and Departments:** The permissions of all employees with Active Directory group memberships are analyzed. Departments with Active Directory groups are also included in the analysis.  
| **NOTE:** Analysis methods are available if the Active Directory Module is installed.
- **LDAP Employee Permissions:** The permissions of all employees with LDAP group memberships are analyzed.  
| **NOTE:** Analysis methods are available if the LDAP Module is installed.

### ***To start a predefined analysis***

1. Start the Launchpad and log in to the One Identity Manager database.
2. Open the Launchpad and select **Analyze business roles** in the **Manage** section. This starts the Analyzer program.
3. On the Analyzer's start page, select the predefined analysis procedure and click **Start**.

This loads the analysis data and starts analysis immediately. This may take some time, depending on the amount of data. The results of the analysis are then displayed in the Analyzer.

**NOTE:** If you have disabled the **Automatically close analysis information window on completion** program setting, information about the analysis is displayed in the **Cluster analysis** window. Click **Expand** to see detailed information. Click **Finish** to close the dialog.

4. Verify the analysis results.
5. Create a new business role if required and assign the employees. Add the suggested changes to the One Identity Manager database.

### **Related topics**

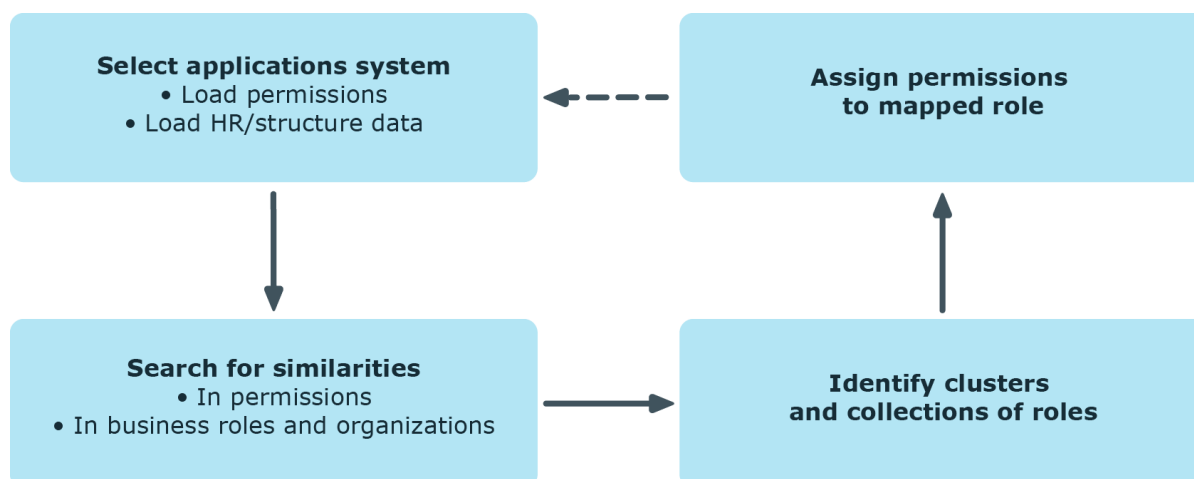
- [Analysis evaluation](#) on page 65

## **Analysis evaluation**

You should always compare the business roles with the custom structures in the case of role mining, because the mathematical methods of cluster analysis only forecast a trend. Apart from renaming nodes, you can also edit employee assignments and business role permissions directly. You can create new business roles with the Analyzer and assign them directly to employees. This makes adding and moving employees into a certain business role very simple.

View the results of the analysis in a window with various panes in the Analyzer.

**Figure 15: Presentation of analysis results**



On the left, the clusters found by the analysis are displayed hierarchically on a tab. The nodes mapped here are named though the first employee found when analysis data is selected with wizards. The naming of predefined analysis methods follows specified rules in the program settings. You can change names using **F2** or **Rename** in the context menu.

The number of occurrences is displayed graphically in the columns <Employees> and <Permissions>. The display is normed in both columns, which means the group with the highest number of employees or permissions assigned to it corresponds to 100 percent and is represented with maximized bars.

**Table 20: Meaning of items in the context menu in view 1**

| Context Menu Item             | Meaning   |
|-------------------------------|---|
| Paste                         | Marks the business role for transfer into the database.   |
| Add recursively               | Marks the business role and its child roles for transfer into the database.                               |
| Delete                        | Removes the business role from the data transfer set.   |
| Create                        | Defines a new business role.  |
| Delete                        | Deletes the business role.  |
| Rename                        | Renames the business role.  |
| Generate business roles names | Generates business role names according to the rules specified ( <b>Database&gt; &gt; Settings</b> menu). |
| Optimize business roles       | Optimizes the business roles. Empty business roles are deleted.   |
| Properties                    | Displays other properties of the business role such as user accounts and permissions.                     |

When a structure node is selected the employees (above) and permissions (below) contained in it are listed in view (2). You can use the color similarity bar to help identify where permissions overlap with each other and how far the user's actual permissions situation fits to the permissions assignment of the selected role. Matching group memberships are green, but non-matching, additional group memberships are red. Directly below this, you see each of the employee's permissions for the analyzed target systems separately. A permissions weighting is displayed depending on the program settings.

**Table 21: Meaning of items in the context menu in view 2**

| Context Menu Item         | Meaning  |
|---------------------------|--|
| Add to business role      | Adds employee/permissions to the hierarchy of the selected business role.      |
| Remove from business role | Removes employee/permissions from the hierarchy of the selected business role. |
| Compare                   | Compares employees with each other. The result is displayed in view 3.         |
| Mark assignments          | Marks employee/permissions assignments in the hierarchy.                       |
| Properties                | Shows other properties of active objects.                                      |

You can analyze permissions memberships of individual employees by multi-selecting in the list of employees and running a direct comparison.

#### ***To compare employee memberships***

- Select employees in the right pane (2) using **Ctrl + select** or **Shift + select**.
- Click **Compare** in the context menu to start comparing.

**TIP:** When you click on an employee in this list, they become the reference employee. The colored similarity bars are aligned to this employee.

## **Applying changes from the analysis**

You can use the Analyzer to create new business roles and assign employees directly to them or move employees and permissions into specific business roles.


#### ***To transfer changes to the One Identity Manager database***

1. In the Analyzer, in the hierarchy mark the business roles you want to transfer.  
Use the **Insert** and **Recursive** context menu items to do this. You can delete individual business roles from the data transfer using the **Remove** context menu item.

2. Select **Database > Commit to database** from menu to start the data transfer wizard and click **Next** to continue.

3. On the **Save options** page, you specify the following settings:

- a. **Role class:** Select the role class under which the business roles will be created in the One Identity Manager database.


Click the  button next to the menu to create a new role class.

- b. Select the save options.

- **Delete existing objects in role class:** This option deletes existing objects in the selected role class from the One Identity Manager database.
- **Business roles do not inherit:** This option disables inheritance of assignments by business roles.

**NOTE:** Once you have checked the assignments, remove **Employees do not inherit** from the business roles. Use the Manager program to do this.

- **Delete direct assignments:** This option removes direct permissions assignments to the employees' user accounts.

 **CAUTION:** Only set this option if you have ensured that the permissions are inherited by the employees through business roles. Otherwise this option results in a loss of permissions.

- **Attest new roles:** New business roles must go through an attestation case.

**NOTE:** This function is only available if the Attestation Module is installed.

4. Click **Finished** to save the data.

One Identity solutions eliminate the complexities and time-consuming processes often required to govern identities, manage privileged accounts and control access. Our solutions enhance business agility while addressing your IAM challenges with on-premises, cloud and hybrid environments.

## Contacting us

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## Technical support resources

Technical support is available to One Identity customers with a valid maintenance contract and customers who have trial versions. You can access the Support Portal at <https://support.oneidentity.com/>.

The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. The Support Portal enables you to:

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- View Knowledge Base articles
- Sign up for product notifications
- Download software and technical documentation
- View how-to videos at [www.YouTube.com/OneIdentity](http://www.YouTube.com/OneIdentity)
- Engage in community discussions
- Chat with support engineers online
- View services to assist you with your product

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